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[54] **TRACE FACILITY FOR USE IN MULTIPROCESSING ENVIRONMENT**

[75] Inventor: Harold L. York, Middletown, N.J.

[73] Assignee: Bell Telephone Laboratories, Incorporated, Murray Hill, N.J.

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[58] Field of Search 364/200, 300, 900

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Primary Examiner—Raulfe B. Zache
Attorney, Agent, or Firm—Daniel D. Dubosky

[57] **ABSTRACT**

A tracing facility which is useful in a multiprocessing environment on a single processor is disclosed. Tracing statements are encoded within each process, each statement having arguments to indicate its location in the code and a message which is logged when the sybsystem and function corresponding to that tracing statement are selected for debugging. Each process includes a trace library that is called by each trace statement, and the trace library includes a local sync word and a local trace table having a list of the subsystems and functions currently selected for tracing. Each process has access to a global sync word and a global trace table having a list of the processes, subsystems and functions selected for tracing. A change in the trace operation is made by changing a parameter in the global trace table and changing the value of the global sync word to indicate that a change has been made in the global table. Each call to the trace library causes a comparison to be made between the local sync word and the global sync word to determine whether the local trace table should be updated from parameters in the global trace table. Each trace statement also has an argument that indicates its level of importance in the debugging operation, and both tables are caused to have a parameter which indicates the level at which trace statements are currently required to be logged.

12 Claims, 6 Drawing Figures